

IN THE CLAIMS

Please amend the claims as follows:

AC/ 6. (AMENDED) The method according to Claim 1 wherein said selective deposition layer is selected from the group consisting of: a hemispherical grain polysilicon layer, a SiGe layer, a polysilicon layer, and a pseudo-epitaxial silicon layer.

AS 8. (AMENDED) The method according to Claim 7 before said step of selectively depositing said hemispherical grain polysilicon layer further comprising plasma doping said silicon layer to amorphize a surface of said silicon layer.

9. (AMENDED) The method according to Claim 7 wherein said step of selectively depositing said hemispherical grain polysilicon layer comprises in-situ doping of said polysilicon layer.

AG 11. (AMENDED) The method according to Claim 10 wherein said doping step is selected from the group consisting of: plasma doping, plasma ion immersion implantation, and gas phase doping.

A7 14. (AMENDED) The method according to Claim 13 wherein said selective deposition layer is selected from the group consisting of: a hemispherical grain polysilicon layer, a SiGe layer, a polysilicon layer, and a pseudo-epitaxial silicon layer.

15. (AMENDED) The method according to Claim 13 wherein said step of selectively depositing said layer comprises in-situ doping of said layer.

16. (AMENDED) The method according to Claim 13 after said step of selectively depositing said layer further comprising doping said selective deposition layer to a concentration of between about $1E18$ and $1E21$ ions/cm³.

17. (AMENDED) The method according to Claim 16 wherein said doping step is selected from the group consisting of: plasma doping, plasma ion immersion implantation, and gas phase doping.

A8 19. (AMENDED) The method according to Claim 18 wherein said step of forming said collar comprises:
growing or depositing an oxide layer within said deep trench; and
thermally densifying said oxide layer.

20. (AMENDED) The method according to Claim 18 wherein said silicon layer comprises amorphous silicon.

21. (AMENDED) The method according to Claim 18 wherein said selective deposition layer is selected from the group consisting of: a hemispherical grain polysilicon layer, a SiGe layer, a polysilicon layer, and a pseudo-epitaxial silicon layer.

22. (AMENDED) The method according to Claim 18 wherein said step of doping said selective deposition layer is selected from the group consisting of: in-situ doping, plasma doping, plasma ion immersion implantation, and gas phase doping.

23. (AMENDED) The method according to Claim 18 further comprising forming a capping layer overlying said selective deposition layer.

24. (AMENDED) The method according to Claim 23 wherein said step of forming said capping layer is selected from the group consisting of: selective oxide deposition and silicon nitride deposition.

25. (AMENDED) The method according to Claim 18 further comprising:

forming a shallow trench isolation region partially within said deep trench and said buried strap area; and

As at forming gate electrodes wherein said buried strap diffusion connects said deep trench capacitor to one of said gate electrodes to complete formation of said deep trench DRAM device.
